

Chapter 2

PRESENT AND POTENTIAL BENEFICIAL USES

An effective water quality control plan requires determination of the beneficial water uses which are to be designated and maintained. This Chapter identifies beneficial water uses in the Lahontan Region and projects probable future uses.

Section 303 of the federal Clean Water Act (P.L. 92-500, as amended) defines water quality standards as both the uses of the waters involved and the water quality criteria applied to protect those uses. Under the Porter-Cologne Water Quality Control Act (CA Water Code § 13000 et seq.), beneficial uses and water quality objectives are considered separately (see Chapter 3, Water Quality Objectives). Beneficial uses and water quality objectives to protect those beneficial uses are to be established for all waters of the State, both surface (including wetlands) and ground waters.

Twenty-three beneficial uses and their definitions were developed by the State Board staff and recommended for use in the Regional Board Basin Plans. Three of those beneficial uses (Marine Habitat, Estuarine Habitat, and Shellfish Harvesting) are not found within the Region. Regional Board staff added two additional uses (Water Quality Enhancement, Flood Peak Attenuation/Flood Water Storage). Thus, the following nine beneficial use designations have been added since adoption of the 1975 Basin Plans: Industrial Process Supply, Fish Spawning, Fish Migration, Navigation, Commercial and Sport Fishing, Water Quality Enhancement, Preservation of Biological Habitats of Special Significance, Aquaculture, and Flood Peak Attenuation/Flood Water Storage. Specific wetland habitats and their associated beneficial uses has been added in recognition of the value of protecting wetlands. This Chapter contains two tables (Tables 2-1 and 2-2) designating the beneficial uses of surface waters, ground waters, and wetlands.

Definitions of Beneficial Uses

AGR Agricultural Supply. Beneficial uses of waters used for farming, horticulture, or

ranching, including, but not limited to, irrigation, stock watering, and support of vegetation for range grazing.

AQUA Aquaculture. Beneficial uses of waters used for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, and harvesting of aquatic plants and animals for human consumption or bait purposes.

BIOL Preservation of Biological Habitats of Special Significance. Beneficial uses of waters that support designated areas or habitats, such as established refuges, parks, sanctuaries, ecological reserves, and Areas of Special Biological Significance (ASBS), where the preservation and enhancement of natural resources requires special protection.

COLD Cold Freshwater Habitat. Beneficial uses of waters that support cold water ecosystems including, but not limited to, preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.

COMM Commercial and Sportfishing. Beneficial uses of waters used for commercial or recreational collection of fish or other organisms including, but not limited to, uses involving organisms intended for human consumption.

FLD Flood Peak Attenuation/Flood Water Storage. Beneficial uses of riparian wetlands in flood plain areas and other wetlands that receive natural surface drainage and buffer its passage to receiving waters.

FRSH Freshwater Replenishment. Beneficial uses of waters used for natural or artificial maintenance of surface water quantity or quality (e.g., salinity).

GWR Ground Water Recharge. Beneficial uses of waters used for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or

Ch. 2, BENEFICIAL USES

halting of saltwater intrusion into freshwater aquifers.

IND **Industrial Service Supply.** Beneficial uses of waters used for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, geothermal energy production, hydraulic conveyance, gravel washing, fire protection, and oil well repressurization.

MIGR **Migration of Aquatic Organisms.** Beneficial uses of waters that support habitats necessary for migration, acclimatization between fresh and salt water, or temporary activities by aquatic organisms, such as anadromous fish.

MUN **Municipal and Domestic Supply.** Beneficial uses of waters used for community, military, or individual water supply systems including, but not limited to, drinking water supply.

NAV **Navigation.** Beneficial uses of waters used for shipping, travel, or other transportation by private, military, or commercial vessels.

POW **Hydropower Generation.** Beneficial uses of waters used for hydroelectric power generation.

PRO **Industrial Process Supply.** Beneficial uses of waters used for industrial activities that depend primarily on water quality.

RARE **Rare, Threatened, or Endangered Species.** Beneficial uses of waters that support habitat necessary for the survival and successful maintenance of plant or animal species established under state and/or federal law as rare, threatened or endangered.

REC-1 **Water Contact Recreation.** Beneficial uses of waters used for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, and use of natural hot springs.

REC-2 **Non-contact Water Recreation.** Beneficial uses of waters used for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, and aesthetic enjoyment in conjunction with the above activities.

SAL **Inland Saline Water Habitat.** Beneficial uses of waters that support inland saline water ecosystems including, but not limited to, preservation and enhancement of aquatic saline habitats, vegetation, fish, and wildlife, including invertebrates.

SPWN **Spawning, Reproduction, and Development.** Beneficial uses of waters that support high quality aquatic habitat necessary for reproduction and early development of fish and wildlife.

WARM **Warm Freshwater Habitat.** Beneficial uses of waters that support warm water ecosystems including, but not limited to, preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.

WILD **Wildlife Habitat.** Beneficial uses of waters that support wildlife habitats including, but not limited to, the preservation and enhancement of vegetation and prey species used by wildlife, such as waterfowl.

WQE **Water Quality Enhancement.** Beneficial uses of waters that support natural enhancement or improvement of water quality in or downstream of a water body including, but not limited to, erosion control, filtration and purification of naturally occurring water pollutants, streambank stabilization, maintenance of channel integrity, and siltation control.

Historical Beneficial Uses

The 1975 Basin Plans included brief discussions of

the history of human water use in the Lahontan Region, and tables of "historical" beneficial use designations from earlier interstate water policies and "interim" final Basin Plans. Earlier beneficial use designations were primarily on a watershed basis; the 1975 Plans designated uses for specific water bodies. Copies of historical information from the 1975 Plans may be obtained by contacting Regional Board staff. The 1975 beneficial use designations were based on knowledge of the existing and potential water uses, with emphasis on the former. For example, many high quality surface waters of the North Lahontan Basin were not designated for municipal use because water supplies in these areas were taken from ground water sources. Historical beneficial uses have been incorporated into Table 2-1 and 2-2 as potential uses (a use which once existed could potentially exist again).

No beneficial use designations adopted in the 1975 Basin Plans have been removed from waters of the Lahontan Region. Removal of a use designation requires a "Use Attainability Analysis," using U.S. Environmental Protection Agency methodology, to show that the use does not occur and cannot reasonably be attained.

Present and Potential Beneficial Uses

In the Basin Planning process, a number of beneficial uses are usually identified for a given body of water. Water quality objectives are established (see Chapter 3) which are sufficiently stringent to protect the most sensitive use. The Regional Board reserves the right to resolve any conflicts among beneficial uses, based on the facts in a given case. It should be noted that the assimilation of wastes is **not** a beneficial use.

In the tables of beneficial uses (Tables 2-1 and 2-2), an "X" indicates an existing or potential use. Many of the existing uses are documented by biological data or human use statistics; some are not. Lakes and streams may have potential beneficial uses established because: (1) plans already exist to put the water to those uses, (2) conditions (location, demand) make such future use likely, (3) the water has been identified as a potential source of drinking water based on the quality and quantity available (see Sources of Drinking Water Policy, in Appendix B), and/or (4) existing water quality does not support these uses, but remedial measures may lead to

attainment in the future. The establishment of a potential beneficial use can have different purposes such as: (1) establishing a water quality goal which must be achieved through control actions in order to re-establish a beneficial use as in No. 4, above, or (2) serving to protect the existing quality of a water source for eventual use.

The water body listings in Tables 2-1 and 2-2 name all significant surface waters, ground water basins and wetlands. Maps of the hydrologic units and the ground water basins are included as part of this Basin Plan (see Plates 1A and 1B, 2A and 2B). Hydrologic units, ground water basins, and wetlands are listed from north to south. Unit and basin numbers are provided in the tables for reference to the Department of Water Resources standardized maps. Unless otherwise specified, beneficial uses also apply to all tributaries of surface waters identified in Table 2-1 (i.e., specific surface waters which are not listed have the same beneficial uses as the streams, lakes, wetlands, or reservoirs to which they are tributary). Note that nondegradation policies (see Chapter 3 of this Basin Plan) would supersede in the instances where the tributary is of higher quality than its receiving water. Other minor surface waters, including wetlands, springs, streams, lakes, and ponds, are included under one heading for each hydrologic unit. These minor surface waters have an "X" to designate each potential or existing beneficial use. Also, ground waters which are not a part of the named basins are recognized as potential or existing "municipal and domestic water supply" (MUN). The beneficial uses for ground water which are contained in Table 2-2 are for each ground water basin or sub-basin as an entirety. Some ground water basins contain multiple aquifers or a single aquifer with varying water quality which may support different beneficial uses. In some areas of the Region, useable ground water occurs above or below an aquifer of highly mineralized ground water, which can contain concentrations of dissolved solids and metals, such as arsenic, unsuitable for drinking water. Therefore, the placing of an "X" in Table 2-2 does not indicate that all of the ground waters in that particular location are suitable (without treatment) for a designated beneficial use. However, all waters are designated as MUN unless they have been specifically exempted by the Regional Board through adoption of a Basin Plan amendment after consideration of substantial evidence to exempt such waters (see Sources of Drinking Water Policy in

Ch. 2, BENEFICIAL USES

Appendix B). Also, certain surface waters, including internal drainage lakes, may have varying water quality from changes in natural conditions (e.g., change in water volume). The designation of multiple beneficial uses in Table 2-1, which may appear conflicting for a particular surface water, indicates existing or probable future beneficial uses that may occur only temporarily.

In most cases, removing a beneficial use designation from Table 2-1 will require a Use Attainability Analysis (UAA) to be conducted (using USEPA methodology). If there is substantial evidence to remove a use designation from a specific water body, the Regional Board will consider adoption of a Basin Plan amendment to remove a designated beneficial use. However, there are many beneficial uses which are not intended to apply to the entire length of a stream or to a surface water during certain temporal conditions (see above). The beneficial use designations that may be considered for temporary or site specific designation are: IND, PRO, GWR, FRSH, NAV, POW, WARM, COLD, SAL, MIGR, SPWN, and WQE. For these situations, Regional Board staff, in order to make a recommendation to the Regional Board, will rely on site-specific documentation which may include: water quality data, field data, professional opinions (from Regional Board staff or other state and federal agencies, also universities), and other evidence collected by a discharger. The most sensitive existing or probable future use will be protected. Uses that did not exist, do not exist and will not exist in the foreseeable future, will not be required to be protected. The MUN designation will not be considered for a site-specific designation since it is designated for all waters, unless specifically exempted by the Regional Board in accordance with the State Board's Sources of Drinking Water Policy.

In the 1975 Basin Plans, industrial use of waters in the Lahontan Region was recognized under the "Industrial Service Supply" (IND) beneficial use designation. "Industrial Service Supply" includes uses of water which do not depend primarily on water quality such as cooling water supply, and gravel washing. The beneficial use designation, "Industrial Process Supply" (PRO) includes industrial uses of water for processing and manufacturing of products which do require specific water quality. This designation has been added to this Plan to differentiate the types of industrial uses. Many of the

waters in the Region meet the high quality standards necessary for manufacturing and processing. However, the "Industrial Process Supply" designation has only been added for Searles Lake, the only water body in the Region with a current industrial process use (North American Chemical Corporation's industrial chemical processing operation).

In the 1975 Basin Plans, the "Freshwater Replenishment" (FRSH) designation was used only for ground waters. This Plan adds this designation for all surface waters in the Region which flow to saline lakes. For example, FRSH has been added to the Susan River which is tributary to Honey Lake.

Beneficial use designations of "Spawning, Reproduction, and Development" (SPWN) and "Migration of Aquatic Organisms" (MIGR) have been added to this Plan. These uses were previously considered to be included under "Cold" or "Warm Freshwater Habitat." However, it is acknowledged that SPWN and MIGR require different or greater resource protection than that afforded by the COLD or WARM designations. "Spawning, Reproduction and Development" (SPWN) is designated for streams and lakes where there is evidence (an historic or presently self-sustaining population) that spawning and reproduction regularly occurs. For example, SPWN has been added to Hot Creek. The beneficial use "Migration of Aquatic Organisms" (MIGR) is designated for streams and lakes through which migrations of fish or other aquatic organisms occur or could occur. Taylor Creek is now designated MIGR to protect the migration corridor of the Kokanee salmon. MIGR and SPWN are designated for the stream or lake in its entirety, although, in most cases they are intended to be applied to only portions of the water body. The Regional Board may apply more stringent protection requirements (such as prohibiting culvert installations which result in detrimental increased stream velocities, or requiring the maintenance of colder stream temperatures for spawning, etc.) along portions of streams where spawning or migration occurs or may occur (see Chapter 3, temperature objectives, and Chapter 4, Fisheries Protection and Management). Conversely, if there is no evidence of, or potential for, spawning, reproduction and/or migration in a specific portion of a water body, specific water quality standards for spawning, reproduction, and/or migration may not be required. The Regional Board will evaluate appropriate use designations on a case-by-case basis if a conflict

arises.

The "Navigation" (NAV) beneficial use designation has been added to many surface waters in the Region because of the State Board's revised definition which now includes travel by private vessels. Several rivers, including the Truckee River, and many lakes, including Lake Tahoe, provide for recreational boating and are now recognized with the addition of the NAV beneficial use.

The beneficial use designation of "Commercial and Sport Fishing" (COMM) has been added in recognition of commercial and sport fishing, and the collection of other aquatic organisms, including but not limited to uses involving organisms intended for human consumption. This designation has been added for all surface waters in the Region. This use previously was solely designated to protect large populations of fish for commercial collection. The revised definition emphasizes the protection of human health from consumption of fish or other aquatic species collected for commercial or recreation purposes.

The addition of the "Water Quality Enhancement" (WQE) beneficial use designation recognizes additional characteristics of water bodies which previously received no formal designation. Beneficial uses of surface waters include their ability to enhance and protect water quality. Characteristics which enable surface waters to provide water quality enhancement include, but are not limited to, riparian vegetation and streambank configuration. The definition of this use is broad enough to allow designation of virtually all surface waters of the Lahontan Region. However, this use is only being added to named wetlands to give special recognition of the value wetlands provide in improving the water quality of other surface waters.

Previously, other regions incorporated "Areas of Special Biological Significance" (ASBS) in their listings of water bodies and beneficial use designations. ASBS is a formal designation reserved for ocean waters. The State Board's development of the beneficial use, "Preservation of Biological Habitats of Special Significance" (BIOL), enables all regions to identify areas or habitats that require special protection. The watercourses, lakes and wetlands designated BIOL provide important habitat to unique combinations of plant and/or animal

species.

The beneficial use designation, "Aquaculture" (AQUA), has been added to surface and ground waters where there is an existing, past, or proposed use of the waters for purposes of aquaculture. Surface waters, such as Oak Creek used by the California Department of Fish and Game for hatcheries or nurseries, are included.

The beneficial use designation of "Flood Peak Attenuation/Flood Water Storage" (FLD) has been added to those riparian wetlands in flood plain areas and other wetlands that receive natural surface drainage and buffer its passage to receiving waters. These waters slow runoff and provide temporary storage of direct precipitation and runoff, serving to reduce the heights of flood peaks in adjacent receiving waters and lengthen the periods of runoff supplied to them. This form of water storage is vital to a number of other beneficial uses, including agriculture and wildlife.

Regional Board staff identified the listed wetlands based on existing information gathered during the statewide Water Quality Assessment process, and from a contract with the University of California at Santa Cruz. For information regarding wetlands definition and identification, see the "Wetland" discussion in the "Resources Management" section of Chapter 4. Also, see the discussion of "Stream Environment Zones" in Chapter 5.

The beneficial uses of surface waters of the Lahontan Region generally include REC-1 (swimmable) and WARM, COLD, or SAL (fishable), implementing the national goals expressed by the federal Clean Water Act. In a few cases, such as agricultural reservoirs, wastewater reservoirs, or drinking water canals, and some special wildlife protection areas, REC-1 uses are restricted or prohibited by the entities which control those waters. It is believed that the lists of beneficial uses in Tables 2-1 and 2-2 accurately reflect current and probable future demands on the water resources of the Lahontan Region.

Key to Table 2-1

"HU No." This column contains numbers used by the California Department of Water Resources in mapping surface water Hydrologic Units, Hydrologic

Ch. 2, BENEFICIAL USES

Areas, and Hydrologic Subareas (watersheds and subwatersheds). See Plates 1A and 1B. More precise information on wetland locations is available in the Regional Board's wetland database.

“Hydrologic Unit/Subunit/Drainage Feature”

This column contains (in bold type) the names of watersheds and subwatersheds corresponding to the Hydrologic Unit numbers in the preceding column, and the names of surface waterbodies, including lakes, streams and wetlands. Many wetlands have no “official” names identifiable on USGS topographic maps. For these wetlands, names were assigned by the Regional Board's wetland identification contractor, generally based on the location or nearby landmarks. For example “Oak Creek Campground Wetlands” (HU No. 603.30) refers to wetlands located at a campground in the Owens River Valley. The wetlands in the Madeline Plains Hydrologic Unit (HU No. 638.00) in Lassen County whose names include the descriptor “Cold Springs Mtn” are located on or near Cold Springs Mountain. Such names should not be understood to imply that a campground or a mountain is a wetland.

“Waterbody Class Modifier” This column includes descriptive information on each waterbody in the preceding column. It distinguishes perennial from ephemeral streams, and indicates the type of wetlands. Some terms have been abbreviated to save space. The following are definitions of wetland types occurring in the Lahontan Region (Mitsch and Gosselink 1986):

Marsh—A frequently or continually inundated wetland characterized by emergent herbaceous vegetation adapted to saturated soil conditions.

Emergent Wetlands—Wetlands dominated by erect, rooted, herbaceous aquatic plants such as cattails, which extend above the standing water level. Marshes are a type of emergent wetland.

Wet Meadow—Grassland with waterlogged soil near the surface but without standing water for most of the year.

Playa lakes/wetlands—Shallow marshes or intermittent lakes formed in nearly level areas at the bottom of desert basins.

Slough—A slowly flowing shallow marsh.

Vernal Pool—A shallow pond which temporarily holds water from spring precipitation and runoff, but which is dry during the summer.

“Beneficial Uses” The subheadings under this heading are abbreviations of beneficial uses which are defined at the beginning of Chapter 2. An “x” in a column beneath one of these designates an existing or potential beneficial use for a given waterbody.

“Receiving Water” This column names the waterbody to which a “drainage feature” named at the far left of the table is tributary.